



When consequence size predicts belief in conspiracy theories: The moderating role of perspective taking[☆]



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HIGHLIGHTS

- Five studies tested the effects of perspective taking on conspiracy beliefs.
- Events with big (as opposed to small) consequences increase conspiracy beliefs.
- These effects are moderated by perspective taking.
- Consequence size influences conspiracy beliefs only among perspective takers.
- These effects of perspective taking are mediated by sense-making motivation

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ABSTRACT

People believe in conspiracy theories more strongly following consequential as opposed to inconsequential events. We expected this effect to be most pronounced among people who take the perspective of the group that is directly affected by the event. Five studies support our line of reasoning. Studies 1 and 4 reveal that participants endorsed stronger conspiracy beliefs when reading about an event with big consequences (i.e., an opposition leader of an African country died in a car crash) than when reading about an event with small consequences (the opposition leader survived the car crash), but only among participants who took the perspective of the citizens of the African country. Similar findings emerged using an individual difference measure of perspective-taking abilities, and with different operationalizations of conspiracy beliefs (Studies 2 and 3). Study 5 revealed that the effects of perspective-taking are mediated by participants' own sense-making motivation. It is concluded that perspective taking promotes conspiracy beliefs when confronted with events that are harmful to another group.

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Introduction

People frequently are confronted with impactful and threatening events such as wars, terrorist strikes, economic crises, and the unexpected deaths of famous individuals. One possible way to make sense of such events is to believe in conspiracy theories. Although there are various definitions of conspiracy beliefs (Bale, 2007), a common definition is that these beliefs constitute an explanatory framework that involve a number of actors—frequently elected officials, managers, or legitimate institutions—that meet in secret agreement, and try to achieve a hidden goal which is perceived as unlawful or malevolent

(Zonis & Joseph, 1994). Belief in conspiracy theories can be widespread: For instance, in 2004, 49% of New York city residents believed that the US government was complicit in the 9-11 terrorist strikes (Sunstein & Vermeule, 2009), and in 1991, 56% of US citizens believed in one of the JFK-conspiracy theories (Pipes, 1997). Moreover, belief in conspiracy theories predicts detrimental variables such as increased hostility, increased political cynicism, and decreased interpersonal trust (e.g., Abalakina-Paap, Stephan, Craig, & Gregory, 1999; Goertzel, 1994; Swami et al., 2011), and causally influences feelings of political powerlessness, which in turn predicts withdrawal from politics (Jolley & Douglas, 2014). Belief in conspiracy theories is thus not a trivial or pathological phenomenon, but instead deserves the serious research attention of the social sciences (Robins & Post, 1997; see also Douglas & Sutton, 2011).

An important insight in this research domain is that conspiracy beliefs are part of a monological belief system, which refers to a closed-minded network of mutually supportive beliefs about the world. Specifically, belief in a conspiracy theory reinforces a general worldview assuming that

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many worldly affairs can be attributed to the existence of secret and evil conspiracies. As a consequence, belief in one conspiracy theory is an excellent predictor of the extent to which a perceiver also believes in other conspiracy theories (e.g., Goertzel, 1994; Lewandowski, Oberauer, & Gignac, 2013; Sutton & Douglas, in press; Swami, Chamorro-Premuzic, & Furnham, 2010; Swami et al., 2011; Swami et al., 2013). Research even indicates that contradictory conspiracy theories (e.g., the belief that Bin Laden died years before the raid in Abbottabad versus the belief that Bin Laden is still alive today) are positively correlated, a finding that was mediated by participants' overall belief in the deceptiveness of authorities (Wood, Douglas, & Sutton, 2012).

Various authors noted that central in the processes leading to belief in conspiracy theories is a desire to make sense of impactful and threatening societal events. In his seminal work, Hofstadter (1966) proposed that a main function of conspiracy beliefs is to provide causal explanations for complex events that are considered distressing by perceivers. Also other scholars described such a desire to increase understanding of events that are hard to comprehend otherwise as a core motivation to believe in conspiracy theories (e.g., Bale, 2007; Clarke, 2002). Empirical findings are largely consistent with these assertions. Various studies reveal that feelings of being out of control, as well as the related concept of uncertainty, instigate some of the mental processes that are associated with conspiracy beliefs (Newheiser, Farias, & Tausch, 2011; Sullivan, Landau, & Rothchild, 2010; Van Prooijen & Jostmann, 2013; Whitson & Galinsky, 2008). More generally, it has been noted that lacking control and feelings of subjective uncertainty prompt sense-making processes aimed at seeing the world as orderly, consistent, and predictable, which feeds into human belief systems (Park, 2010; Shermer, 2011; Van den Bos, 2009).

The above considerations suggest that conspiracy beliefs are most likely to flourish following events that are considered both impactful and threatening. Correspondingly, it has been argued that people engage in *consequence-cause matching*—which refers to the general attributional tendency of people to assume a major cause for events that had major consequences (Fiedler, Freytag, & Unkelbach, 2011; LeBoeuf & Norton, 2012)—in the context of conspiracy beliefs. Inspired by the Kennedy assassination, McCauley and Jacques (1979) designed a series of studies in which participants read how a man tried to shoot a president. It was varied whether or not the president was hit and died (big consequence) or whether the president was missed and stayed alive (small consequence). As a measure of conspiracy beliefs, participants were asked whether they believed that the man acted alone, or whether this man was member of a group organized to kill the president. Results indicated that participants were more likely to suspect a conspiracy when the president died as opposed to lived. Subsequent studies found further evidence for these effects of consequence size on conspiracy beliefs (LeBoeuf & Norton, 2012; Leman & Cinirella, 2007).

It stands to reason that one's concern about highly consequential societal events, and one's need to make sense of it, vary depending on how close one feels to the group that is affected by a harmful incident. Note, however, that people frequently endorse conspiracy beliefs about impactful events that did not directly target their own group. As a case in point, many EU citizens strongly endorse conspiracy beliefs about the 9-11 strikes, even though these attacks targeted the US, and influenced the EU only indirectly (Swami et al., 2010). Why do people form conspiracy beliefs about impactful events that happened elsewhere in the world? In the present research we reason that perspective taking is likely to facilitate this process: People feel a stronger need to make sense of impactful events to the extent that they take the perspective of the group that is under threat, and display an increase in conspiracy beliefs accordingly. In the following, we introduce our line of reasoning in more detail.

Perspective taking and conspiracy beliefs

In everyday social interaction people are often required to take the perspective of others when ascribing mental states to them, such as

motivations, desires, emotions, and cognitions (e.g., Batson, 1991; Davis et al., 2004). Such perspective taking elicits empathy, a phenomenological response to the experiences of others that includes affective and cognitive components. Affectively, taking the perspective of others who experience some form of misfortune has been found to evoke an emotional experience that resembles the emotional experience of the victim (Batson, Eklund, Chermok, Hoyt, & Ortiz, 2007). Cognitively, taking the perspective of others increases the extent to which people perceive the self as connected to these others. Indeed, research reveals that perspective taking strengthens associative links between the self and an outgroup (Todd & Burgmer, 2013). Taking the perspective of outgroup members may hence tighten the affective and perceptual connection that a person experiences with the outgroup, and possibly even induce overarching mental categorizations into a common identity (Gaertner & Dovidio, 2000).

One might therefore expect that when people adopt the perspective of a group of citizens whose well-being is substantially threatened by impactful societal events, they have an increased desire to understand how these societal events originated. Specifically, we propose that the empathic experience resulting from perspective taking induces a sense of vicarious distress when perceiving how others are victimized. After all, perspective taking, as well as feelings of closeness or sympathy, induce perceivers to have similar experiences as victims and connects the self with the group (e.g., Batson et al., 2007; Loewenstein & Small, 2007). Once the self becomes aligned with the group that is under threat, people start to worry about the threat, and become personally motivated to make sense of the event (cf. Van den Bos, 2009). Indeed, Park (2010) notes that events that are considered stressful to the self can “create the distress that drives meaning-making efforts” (p. 259). Such sense-making motivation gives rise to belief in conspiracy theories, due to an increased vigilance about potentially suspect features of the harmful event, and an increased desire to develop coherent and causal explanations of how and why an event emerged (Hofstadter, 1966; Shermer, 2011). These processes are less likely among people who do not take the perspective of a group that was harmed by an impactful and consequential event. Without perspective taking, what happens to others is of little relevance to the self, and therefore less likely initiates the sense-making processes that have the potential to increase conspiracy beliefs.

These implications of psychologically connecting the self to victimized or threatened groups are consistent with related insights into the processes underlying conspiracy beliefs. It has been noted that conspiracy beliefs can be conceptualized as a form of intergroup threat, where a powerful outgroup (e.g., the political elite; CEOs) is perceived as threatening and deceptive towards a valued ingroup (e.g., fellow citizens) (Van Prooijen & Van Lange, 2014; see also Kramer & Messick, 1998). Empirical studies indeed underscore the intergroup dimension of conspiracy beliefs, which are more prevalent among marginalized groups in society (e.g., Crockner, Luhtanen, Broadnax, & Blaine, 1999) and are driven by group ideology (Swami, 2012). Thus, being part of a threatened group increases conspiracy beliefs, lending credibility to the idea that taking the perspective of a threatened group may also increase conspiracy beliefs.

Furthermore, our line of reasoning is reminiscent of theories that focus on the processes through which people make sense of the fate of victimized others. Lerner and Miller (1978; p. 1031) noted that the need to make sense of a group of victims' fate increases to the extent that people perceive the self as more strongly connected to these victims. Furthermore, research findings are consistent with the idea that people experience more distress about victims when they experience various forms of self-other overlap, such as a common group membership (Correia, Vala, & Aguiar, 2007), or a mindset that cognitively merges the self with others (i.e., social self-activation; Van Prooijen & Van den Bos, 2009). Integrating these arguments with the proposition that conspiracy beliefs are functional to cope with events that perceivers consider distressing, it is hence likely that taking the perspective of a

group that was faced with a highly impactful and harmful event has the potential to increase conspiracy beliefs.

In sum, we propose that consequence–cause matching in conspiracy beliefs is moderated by perspective taking. More specifically, we predicted that the consequence size of a societal event shapes conspiracy beliefs particularly among people who take the perspective of the group that is influenced by the event. We tested this general hypothesis in five studies.

Study 1

In Study 1, we manipulated perspective taking in the context of a bogus newspaper article that described how an influential opposition leader in an African country was victim of a car crash. The use of a bogus event enabled us to investigate people's spontaneous formation of conspiracy beliefs without being exposed to external influences (e.g., the media, internet, peers). In the perspective-taking condition, participants were asked to take the perspective of the citizens of that country; in the control condition, participants were asked to evaluate the situation objectively (e.g., Batson et al., 2007; Epley, Caruso, & Bazerman, 2006; Galinsky & Moskowitz, 2000). Furthermore, we manipulated whether the opposition leader died in the crash (big consequence) versus miraculously survived the crash (small consequence). To operationalize conspiracy beliefs, we asked questions assessing participants' beliefs that the crash was in fact an organized assassination attempt. We predicted that participants would be more inclined to believe in a conspiracy when the opposition leader died as opposed to lived, but especially so when they took the perspective of the group that is influenced by the incident (i.e., the citizens of the African country).

Method

Participants and design

We assigned 71 participants (14 men, 57 women; $M_{\text{age}} = 20.82$) randomly to the conditions of a 2 (perspective taking: perspective versus objective) \times 2 (consequence size: small versus big) factorial design. Participants were recruited in student cafeterias, and were paid € 2.50 or given course credit for participation.

Procedure

Upon entry in the laboratory, participants were placed in separate cubicles that contained computer equipment, which was used to present the stimulus materials and register the data. Participants were informed that they would read a newspaper article about events in the African country of Benin that took place two years ago (although Benin is an existing country, the newspaper article contained only bogus information; no participants objected to this upon debriefing). Participants were informed that the article would be about a political opposition leader, named Yayi Godo. We then manipulated perspective taking (Batson et al., 2007; Epley et al., 2006; Galinsky & Moskowitz, 2000). In the perspective-taking condition participants were asked to take the perspective of the citizens of Benin, and to imagine that they themselves were born in Benin when evaluating the newspaper article. In the objective control condition, participants were asked to evaluate the situation as objectively as possible.

Participants then read the article, in which Godo was presented as a powerful opposition leader who was likely to win the elections next month. The article described how Godo was the victim of a severe car crash. In the big consequence condition, participants read that Godo died as a consequence of the car crash, and that the elections would be postponed until further notice. In the small consequence condition, participants read that Godo miraculously survived the crash with only minor injuries, and that the elections would proceed as planned.

To measure conspiracy beliefs we posed the following three questions (1 = *completely disagree*, 7 = *completely agree*): “This was in fact an assault”, “The brakes were sabotaged”, and “This accident was caused

by the government of Benin”. These three items were averaged into a reliable conspiracy belief scale ($\alpha = .88$). We also inserted a manipulation check of our perspective taking manipulation. Hence, participants responded to the following three questions (1 = *completely disagree*, 7 = *completely agree*): “I empathize with the citizens of Benin”, “I have many similarities with the citizens of Benin”, and “I am concerned about the future of Benin”. These items had good reliability ($\alpha = .73$), and we aggregated them into an empathy scale. Participants were then thanked, debriefed, and given their course credit or payment.

Results

Manipulation check

A 2 (perspective taking) \times 2 (consequence size) ANOVA on the empathy scale yielded a significant main effect of the perspective taking manipulation only, $F(1, 67) = 8.93, p < .01; \omega^2 = .11$. Participants in the perspective taking condition reported more empathy with the citizens of Benin ($M = 4.07, SD = 1.21$) than participants in the objective control condition ($M = 3.27, SD = 1.02$). Importantly, both the main effect of consequence size and the interaction were nonsignificant ($ps > .18$), indicating that perspective taking varied empathy independent from the consequence size manipulation (i.e., big consequences did not make participants more or less empathic). From these analyses we conclude that the perspective-taking manipulation was induced successfully.

Conspiracy beliefs

A 2 (perspective taking) \times 2 (consequence size) ANOVA on our measure of conspiracy beliefs revealed a significant main effect of consequence size, $F(1, 67) = 7.50, p < .01; \omega^2 = .08$. Participants reported a stronger belief in conspiracy theories when consequences were big ($M = 4.18, SD = 1.20$) than when consequences were small ($M = 3.45, SD = 1.10$), which replicates previous findings (LeBoeuf & Norton, 2012; Leman & Cinirella, 2007; McCauley & Jacques, 1979). More important was that this main effect was qualified by the predicted interaction, $F(1, 67) = 4.47, p < .04; \omega^2 = .05$.

The interaction is displayed graphically in Fig. 1. Consequence size exerted a significant effect within the perspective taking condition, $F(1, 67) = 11.75, p < .01; \omega^2 = .13$, indicating that people expressed stronger conspiracy beliefs in the big consequence condition ($M = 4.59, SD = 1.32$) than in the small consequence condition ($M = 3.29, SD = 1.06$). The effect of consequence size was nonsignificant in the objective control condition, $F < 1$ (for the big consequence condition, $M = 3.76, SD = 0.94$; for the small consequence condition, $M = 3.59, SD = 1.15$). These findings provide preliminary support for our hypothesis.

Furthermore, it can be noted that perspective taking exerted a significant effect on conspiracy beliefs in the big consequence condition, $F(1, 67) = 4.92, p = .03; \omega^2 = .05$. This effect was not significant in the small consequence condition, $F < 1$.

Discussion

The results revealed that an event with big and harmful consequences increased conspiracy beliefs compared to an event with small consequences, but only among participants who took the perspective of the group that was impacted by the event. Thus, Study 1 supported the line of reasoning that was laid out in the introduction. In Study 2, we seek to replicate and extend these findings: Specifically, we examined perspective-taking ability as an individual-difference measure. Moreover, we operationalized conspiracy beliefs differently to exclude an alternative explanation.

Study 2

Whereas participants in Study 1 received explicit perspective-taking instructions, in Study 2 we expand on that by examining whether

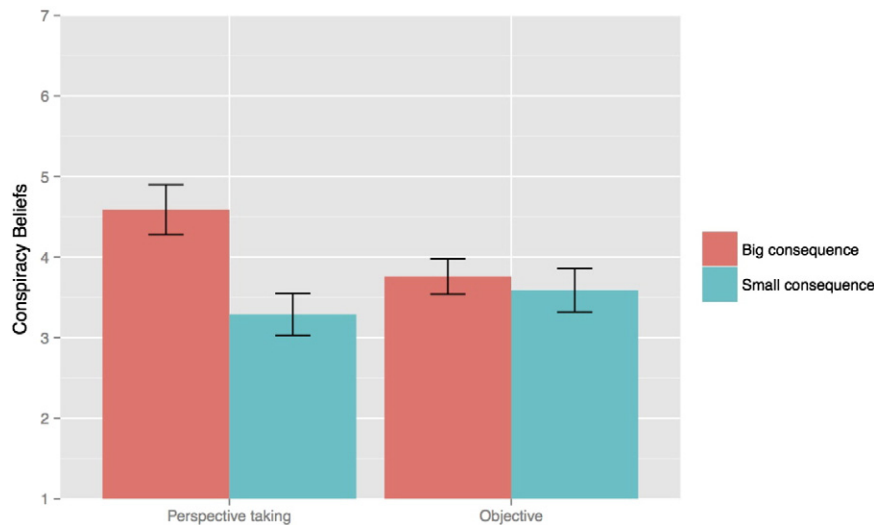


Fig. 1. Belief in conspiracy theories as a function of perspective taking and consequence size—Study 1. Ratings were on 7-point scales, and higher values indicate stronger conspiracy beliefs.

individual differences in perspective-taking ability predict conspiracy beliefs. We first measured perspective-taking ability by means of the “Reading the Mind in the Eyes” test, which is designed to assess people’s capacity to infer other people’s mental states (i.e., “Theory of Mind”; Van Doesum, Van Lange, & Van Lange, 2013). In the Reading the Mind in the Eyes test, participants are presented with 36 pictures that each displays the eye-region of the face of an actor or actress. For each picture, participants are presented with four words describing possible mental states (e.g., confused; irritated), and their task is to indicate which of these mental states most closely matches the eyes. Only one of these options is the correct response. Upon completion of the test, the total number of correct responses is calculated for each participant. Contrary to more traditional perspective-taking measures which usually are based on self report (e.g., Davis, 1983), the Reading the Mind in the Eyes test is an indicator of people’s actual ability to take the perspective of another person, and is relatively insensitive to socially desirable response patterns (for details, see Baron-Cohen et al., 2001). Recent empirical studies hence included the Reading the Mind in the Eyes test as indicator of perspective taking (Van Doesum, Van Lange, & Van Lange, 2013; Van Honk et al., 2012).

Such perspective-taking ability is sometimes also referred to as “cognitive empathy”, and is assumed to be an automatic and unconscious skill that enables perceivers to understand the complex emotions that other humans experience (Van Honk et al., 2012). Importantly, perspective-taking ability tests the proposed process from a slightly different angle, as it involves psychological dynamics that are not fully the same as inducing perspective taking (for instance, perspective-taking ability does not predict perspective taking efforts; Eyal & Epley, 2010; Stinson & Ickes, 1992). Whereas perspective-taking efforts connect the self with the victimized group by actively imagining the experiences of that group, having high perspective-taking ability connects the self with the group through an increased mental capacity to understand and appreciate the distress that the victimized group endures. Such automatic understanding of the victimized group’s perspective may increase awareness of potentially suspect features of the consequential events threatening that group, and therefore increase vigilance about a possible conspiracy.

As a second extension, we modified our operationalization of conspiracy beliefs. Based on Study 1 alone, it is hard to establish whether the present findings pertain to conspiracy beliefs per se, or rather, to the more general human tendency to perceive events as intentional. Not all events that are intentional are conspiratorial, and hence, it is important to find out whether these effects are about conspiracy beliefs specifically or about perceived intentionality more generally. We

therefore operationalized conspiracy beliefs in a setting that kept intentionality constant. Participants again received a bogus newspaper article about an African opposition leader, but inspired by the McCauley and Jacques (1979) study, in this newspaper article it was described how the opposition leader was shot. To manipulate consequence size, we varied whether or not the opposition leader was hit in the head and died (big consequence) or was hit in the arm and survived (small consequence). We then measured conspiracy beliefs by assessing participants’ beliefs whether the assassination attempt was the work of a lone gunman, or whether it was the work of a conspiracy (cf. McCauley & Jacques, 1979). Thus, the event was clearly intentional in all conditions, and we measured participant’s tendency to attribute this assault to a conspiratorial network. Based on our general hypothesis, we predicted stronger conspiracy beliefs if the opposition leader died as opposed to lived, but particularly among participants with high perspective-taking ability.

Method

Participants and design

We recruited 79 participants (39 men, 40 women; $M_{age} = 21.42$, $SD = 3.19$) from student cafeterias. We implemented a design in which we measured perspective-taking ability as a continuous independent variable, and randomly assigned participants to consequence size conditions (big consequence versus small consequence).¹ The study was part of a battery of studies that lasted approximately 20 min. Participants were again given course credit, or paid € 2.50, for participation.

Procedure

The study took place in the same laboratory as Study 1, and was presented as two separate experiments. Participants started with “Experiment 1” in which we measured their perspective-taking ability by assessing the Reading the Mind in the Eyes test (Baron-Cohen et al., 2001), and then summed the number of correct responses for each participant ($M = 24.49$, $SD = 4.30$). Participants were then informed that they would participate in a second, unrelated experiment in which they would read a newspaper article about an opposition leader (Godo) in Benin who was about to win the elections. Contrary to Study 1,

¹ The full design of Study 2 also contained a perspective taking manipulation. The data revealed, however, that this manipulation was unsuccessfully induced in this study. Specifically, perspective taking exerted no effect on the same empathy scale that was measured in Study 1 to check this manipulation ($\alpha = .62$), $F < 1$. We therefore dropped this manipulation from the analyses.

however, it was described how Godo's car was shot at by a motor cyclist in front of a traffic light. In the big consequence condition, it was described how Godo was hit in the head and died. In this condition, the elections were postponed until further notice. In the small consequence condition, it was described how Godo was hit in the arm and survived. In this condition, the elections would proceed as planned. In both conditions, participants were informed that the motor cyclist was arrested by the police.

We then measured conspiracy beliefs by means of the following questions (1 = *strongly disagree*, 7 = *strongly agree*): "There must have been more people involved in planning this assault", "This assault was the work of a conspiracy", "People with a lot of power gave the order for this assault", and "It is impossible that this assault was the work of a single individual". These four items were averaged into a reliable conspiracy scale ($\alpha = .84$). To check the consequence size manipulation, we asked the following questions (1 = *strongly disagree*, 7 = *strongly agree*): "The described situation ended well for Godo", "Godo is lucky that this event ended in the way it did", and "The assault has little consequences for the elections". We recoded all these items so that high scores indicate perceptions of big and harmful consequences. The consequence size measure had high reliability ($\alpha = .81$). After that, the experiment ended, and participants were thanked, debriefed, and given their course credit or payment.

Results

Statistical analyses

The results were analyzed by means of hierarchical regression analyses. The centered perspective-taking measure and the effect-coded consequence size manipulation (1 for the big consequence condition, -1 for the small consequence condition) were specified in Step 1, and the interaction term was added to the regression model in Step 2 (Cohen, Cohen, West, & Aiken, 2003).

Manipulation check

The analysis on the consequence size measure revealed that only Step 1 was significant ($R^2 = .63$, $F(2, 76) = 63.31$, $p < .001$). This effect was attributable to the strong main effect of the consequence size manipulation ($B = 1.34$, $p < .001$). Participants perceived bigger consequences of the assault for Godo and Benin in the big consequence condition ($M = 6.02$, $SD = 1.08$) than in the small consequence condition ($M = 3.35$, $SD = 1.03$). Furthermore, both the main effect of perspective-taking ability ($B = .03$, $p = .37$) and the interaction ($B = .00$, $p = .97$) were nonsignificant. These latter findings indicate that perspective-taking ability did not influence people's perceptions of how big or harmful consequences are. It can thus be concluded that the consequence size manipulation was induced successfully.

Conspiracy beliefs

The results of the regression analysis are displayed in Table 1. This analysis revealed that only Step 2, in which the predicted interaction term was added to the regression model, was significant, ($\Delta R^2 = .07$), $F(1, 75) = 5.76$, $p < .02$. The interaction is displayed graphically in

Table 1
Results from hierarchical regression analyses: Conspiracy beliefs as a function of perspective-taking ability and consequence size (Study 2).

Step 1	β	$t(76)$
Perspective-taking ability	.22	1.96†
Consequence size	.10	0.89
Step 2	β	$t(75)$
Perspective taking \times consequence size	.26	2.40*

Note.
* $p < .05$.
† $p < .10$.

Fig. 2. We further examined this interaction by means of simple slopes analyses in which we tested the effect of consequence size at +1 and -1 SD of the mean of the perspective taking measure. Among participants who scored high on perspective-taking ability, the effect of consequence size was significant ($B = .48$, $p = .02$), revealing that conspiracy beliefs were stronger in the condition where consequences were big than in the condition where consequences were small. The effect of consequence size was nonsignificant among participants who scored low on perspective-taking ability ($B = -.22$, $p = .29$). These results further corroborated our hypothesis.

It can also be noted that perspective-taking ability significantly predicted conspiracy beliefs in the big consequence condition ($B = .15$, $p = .002$). In the small consequence condition this effect was nonsignificant ($B = -.01$, $p = .88$).

Discussion

The findings of Study 2 further support our line of reasoning, and reveal that the conclusions generalize to other operationalizations of perspective taking and conspiracy beliefs. Moreover, these findings were obtained in a setting where conspiracy beliefs could not be attributed to an increased tendency to perceive events as intentional. Whereas in all conditions the incident was clearly intentional (i.e., a deliberate assassination attempt), the effects materialized on the size of the conspiratorial network that participants perceived. Finally, the manipulation check in Study 2 excludes the alternative interpretation that perspective-taking ability influences perceptions of how big and harmful consequences are, as indicated by the nonsignificant effect of perspective-taking ability on perceived consequence size.

Study 3

In Study 3, we examined whether the processes described in this contribution hold implications for actual conspiracy beliefs that many people endorse in everyday life. For this purpose, we tested our hypothesis in the context of a real societal event that elicited a lot of conspiracy theorizing among people all over the world: The 9-11 terrorist attacks. Although there is a lot of variability in the specific details of various 9-11 conspiracy theories, the overarching theme in most of these theories is an allegation that these attacks were secretly orchestrated by the Bush administration, for instance to increase support for a political agenda to invade Iraq. In a correlational study among Dutch participants, we tested whether perspective-taking ability and perceived consequence size would predict participants' belief in a 9-11 governmental conspiracy.

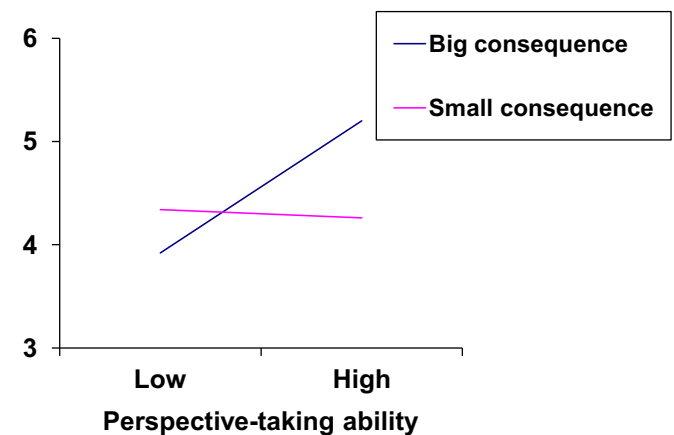


Fig. 2. Belief in conspiracy theories as a function of perspective-taking ability and consequence size—Study 2. Ratings were on 7-point scales, and higher values indicate stronger conspiracy beliefs.

Method

Participants

A total of 80 participants (40 men, 40 women; $M_{\text{age}} = 21.01$, $SD = 2.56$) were recruited in student cafeterias. The study lasted approximately 20 min, and participants were given course credit or € 2.50 for participation.

Procedure

The study took place in the same laboratory as the previous studies, and was presented as two separate experiments. Participants started with “Experiment 1” in which we—as part of a larger battery of measures—again measured their perspective-taking abilities by means of the Reading the Mind in the Eyes test ($M = 23.85$, $SD = 5.25$).

After this, participants were informed that they would conduct an unrelated study on how students perceived the terrorist attacks of 11 September 2001. We measured perceived consequence size by means of the following four questions: “How much influence did the attacks have on the world?” (1 = *a little*, 7 = *a lot*), “To what extent do you believe that the world has changed as a consequence of the attacks?” (1 = *a little*, 7 = *a lot*), “To what extent do you believe that the attacks constitute an important part of the history of the world?” (1 = *not at all*, 7 = *very much*), and “How many people have directly or indirectly experienced negative consequences of the attacks?” (1 = *very few*, 7 = *very many*). These four items were averaged into a reliable measure of perceived consequence size ($\alpha = .71$). It should be noted that the Mean of perceived consequence size was rather high among participants ($M = 6.05$, $SD = 0.71$), a point to which we return in the discussion below. Perceived consequence size was uncorrelated with the measure of perspective-taking ability ($r = .18$, $p = .11$).

Conspiracy beliefs were measured by means of the following four items (1 = *certainly not*, 7 = *certainly*): “To what extent do you believe that people who were affiliated with the George W. Bush administration gave the order for the attacks?”, “To what extent do you believe that the George W. Bush administration had reason to be happy about the attacks?”, “To what extent do you believe that the attacks were in fact organized by the George W. Bush administration?”, and “To what extent do you believe that president George W. Bush was personally involved in planning the attacks?”. These four items were averaged into a reliable conspiracy belief scale ($\alpha = .93$). After this, participants were thanked, debriefed, and either paid or given their course credit.

Results

The results of hierarchical regression analyses are displayed in Table 2. The analysis indicated that Step 1 was nonsignificant, $F < 1$, but Step 2, in which the predicted interaction term was added to the model, was significant ($\Delta R^2 = .05$), $F(1, 76) = 4.01$, $p < .05$. The interaction is displayed graphically in Fig. 3. To further examine the interaction, we conducted simple slopes analyses in which we tested the effect of perceived consequence size on conspiracy beliefs among people scoring high (+1 SD) and low (−1 SD) on perspective-taking ability. As predicted, the effect of perceived consequence size was significant among participants with high

Table 2

Results from hierarchical regression analyses: Conspiracy beliefs as a function of perspective-taking ability and perceived consequence size (Study 3).

Step 1	β	$t(77)$
Perspective-taking ability	−.07	−0.57
Perceived consequence size	.08	0.69
Step 2	β	$t(76)$
Perspective taking × consequence size	.24	2.00*

Note.

* $p < .05$.

perspective-taking ability ($B = .80$, $p < .05$), such that perceived consequence size positively predicted participants' inclination to believe in a 9-11 conspiracy (see Fig. 3). The effect of perceived consequence size was nonsignificant among participants with low perspective-taking ability ($B = −.18$, $p = .57$). These results further support our hypothesis.

It can further be noted that the effects of perspective-ability were nonsignificant among participants who perceived consequences to be big (+1 SD) ($B = .07$, $p = .24$) as well as among participants who perceived consequences to be small ($B = −.07$, $p = .11$). Apparently, in this study the effects of consequence size among participants high in perspective-taking ability was driven by both participants that perceived 9-11 to be a relatively big event, and by participants that perceived 9-11 to be a relatively small event. In the General Discussion, we revisit this finding in comparison to the other studies.

Discussion

The results extend the findings of Studies 1 and 2 by revealing evidence for the hypothesis in the context of a real event. Although the event took place in the US, Dutch participants who scored high on perspective-taking ability made inferences about the existence (or non-existence) of a 9-11 governmental conspiracy depending on how consequential they believed the 9-11 strikes had been for the world. These findings further support the idea that the combination of perspective taking and perceived consequence size may explain why people often endorse conspiracy beliefs about events that happen elsewhere in the world.

It should be noted that the overall mean of perceived consequence size was rather high, implying that most participants who score lower than average on this measure still tend to score high in the absolute sense. This is not surprising, given that the 9-11 strikes were highly consequential events (e.g., being the largest attack on US soil since Pearl Harbour, killing over 3000 people, and provoking two wars). Despite this high base-rate, relative differences between participants may still be quite diagnostic for diverging subjective perceptions of consequence size, and the corresponding extent to which participants are concerned about this event. The results indicate that the variance in this measure was sufficient to reveal the predicted effects, suggesting that individually different interpretations of consequence size may meaningfully predict conspiracy beliefs even in the case of objectively impactful societal events.

Study 4

We conducted a fourth study to resolve an ambiguity regarding the underlying process that causes this effect. Our line of reasoning hinges

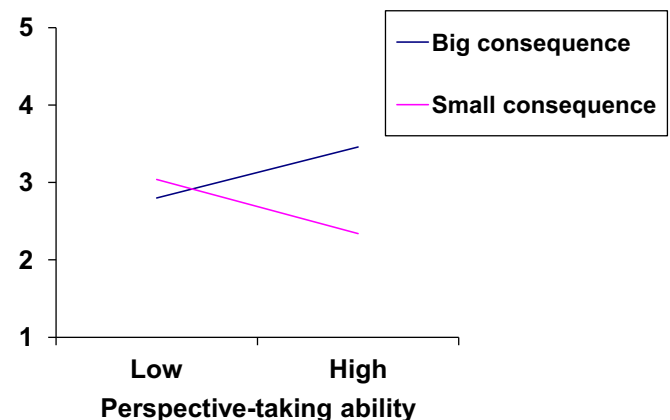


Fig. 3. Belief in conspiracy theories as a function of perspective-taking ability and perceived consequence size—Study 3. Ratings were on 7-point scales, and higher values indicate more belief in a 9-11 conspiracy.

on the assumption that perspective taking increases the extent to which people empathize with a specific group that is influenced by a consequential and harmful event. An alternative possibility, however, is that taking another person's perspective stimulates perceivers' general tendency to assume agency when making sense of impactful events. There is literature that is consistent with this interpretation. Shermer (2011) noted that conspiracy beliefs are the result of various complementary processes, one of them being "agentivity" (i.e., the tendency to attribute events to deliberate agents). Moreover, it has been noted that theory of mind is closely associated with agency detection, which in turn predicts a variety of belief systems, including supernatural beliefs and religion (e.g., Atran & Henrich, 2010; Bering, 2011). Based on our first three studies, it is impossible to determine which of these processes account for the current results. After all, in Study 1 we did not include a condition in which participants took the perspective of a group that was not under threat, and in Studies 2 and 3 we used a general measure of perspective taking ability.

To get a clearer picture which of these processes accounts for our results, we extended our Study 1 design by including a third perspective-taking condition in which participants were instructed to take the perspective of a group that was not impacted by the incident (i.e., the average Dutch citizen). If the effects of perspective taking are attributable to empathy for a specific threatened group, we should find the effects of consequence size on conspiracy beliefs only among participants who take the perspective of the citizens of Benin. If the effects of perspective taking are attributable to a general activation of people's agency detection modules, we should find the effects of consequence size on conspiracy beliefs also among participants who take the perspective of a different group.

Method

Participants and design

We tested our hypothesis by means of a 3 (perspective taking: Benin citizen versus Dutch citizen versus objective) \times 2 (Consequence size: small versus big) factorial design. We recruited 114 participants for this study (33 men, 81 women; $M_{\text{age}} = 21.38$, $SD = 5.08$). The study was followed by another, unrelated study. Together the studies lasted about 15 min, and participants received either course credit or payment (€ 2,=) for participation.

Procedure

The study employed a similar bogus newspaper article as Study 1, including the consequence size manipulation in which the opposition leader (Godo) either dies in a car crash, or survives the crash with minor injuries. To manipulate perspective taking, we again varied whether or not participants took the perspective of the citizens of Benin or took a neutral perspective, but we added a third perspective taking condition. In this condition, participants were asked to take the perspective of the average Dutch citizen, and to imagine what the average Dutch citizen would think when reading the article.

To measure conspiracy beliefs, we extended the measure of Study 1 somewhat, and further improved it by also including reverse-scored items. We specifically asked participants' agreement to the following statements (1 = *strongly disagree*, 7 = *strongly agree*): "The press agency withholds information", "This was in fact an assault", "A conspiracy was behind this accident", "This accident was caused with the intention to kill Godo", "Several people conspired to make this look like an accident", "Godo's accident was planned in advance by powerful individuals", "This accident could have happened to anyone" (recoded), and "No-one is to blame for this accident" (recoded). Participants' responses to these items were averaged into a reliable conspiracy belief scale ($\alpha = .90$).

To check the consequence size manipulation, we asked participants' agreement to the following statements (1 = *Strongly disagree*, 7 = *Strongly agree*): "Things eventually ended well for Godo" (recoded),

"This accident has major consequences for Benin", and "Godo is lucky that this ended the way it did" (recoded). We averaged responses to these items into a reliable consequence size check ($\alpha = .83$). To check the perspective taking manipulation, we asked the following questions (1 = *Not at all*, 7 = *Very much*): "I empathize with the citizens of Benin", "I identify with the citizens of Benin", "I have a lot of similarities with the citizens of Benin", and "I am concerned about the future of Benin". Responses to these items were averaged into a reliable Benin-empathy scale ($\alpha = .83$). To also check the added condition in which participants took the perspective of the average Dutch citizen, we asked the following questions (1 = *Not at all*, 7 = *Very much*): "To what extent did you take the perspective of the average Dutch citizen?" and "To what extent did you evaluate the situation while taking the perspective of the average Dutch citizen?". Responses to these items were averaged into a Dutch-perspective taking check ($\alpha = .83$). After this, the experiment ended, and participants were thanked, debriefed, and given their course credit or payment.

Results

Manipulation checks

We analyzed the results with 3 (perspective taking) \times 2 (consequence size) ANOVAs. The results on the consequence size manipulation check revealed a significant consequence size main effect, $F(1, 108) = 273.36$, $p < .001$; $\omega^2 = .70$. Participants in the big consequence condition perceived bigger consequences ($M = 5.90$, $SD = 1.09$) than participants in the small consequence condition ($M = 2.98$, $SD = 0.77$). None of the other effects were significant ($ps > .35$). These results suggest that the consequence size manipulation was perceived as intended.

On the Benin-empathy scale, results revealed a significant perspective taking main effect only, $F(2, 108) = 14.49$, $p < .001$; $\omega^2 = .19$. The consequence size main effect and the interaction were nonsignificant ($ps > .15$). A subsequent Tukey's HSD test ($p < .05$) indicated that participants' empathic feelings about the citizens of Benin were significantly stronger in the condition where participants took the perspective of the citizens of Benin ($M = 4.19$, $SD = 1.12$) than in the condition where participants took the perspective of the average Dutch citizen ($M = 2.83$, $SD = 1.24$) or the objective control condition ($M = 2.96$, $SD = 1.32$). The latter two conditions did not differ significantly ($p = .88$). Thus, participants empathize more with the citizens of Benin when taking their perspective than when taking the perspective of the average Dutch citizen or in the control condition, as was intended with this manipulation.

Furthermore, on the Dutch-perspective taking check, results revealed a significant perspective taking main effect, $F(2, 108) = 28.82$, $p < .001$; $\omega^2 = .33$. The consequence size main effect and the interaction both were nonsignificant ($ps > .14$). A Tukey HSD test ($p < .05$) revealed that participants took the perspective of the average Dutch citizen more strongly in the Dutch citizen perspective condition ($M = 5.53$, $SD = 0.72$) than in the Benin citizen perspective condition ($M = 3.59$, $SD = 1.40$) or the objective control condition ($M = 3.74$, $SD = 1.54$). The latter two conditions did not differ significantly ($p = .87$). These results reveal that the Dutch citizen perspective taking condition was induced successfully.

Conspiracy beliefs

We then proceeded to analyze participants' belief in conspiracy theories. Results revealed a significant perspective taking main effect, $F(2, 108) = 4.22$, $p < .02$; $\omega^2 = .05$. According to Tukey's HSD test ($p < .05$), conspiracy beliefs were significantly stronger in the Benin-citizen perspective taking condition ($M = 4.55$, $SD = 0.97$) than in the control condition ($M = 3.88$, $SD = 1.09$). The mean in the Dutch-citizen perspective taking condition was intermediate between the other two conditions ($M = 4.42$, $SD = 1.20$), and did not differ significantly from the Benin-citizen perspective taking condition ($p =$

.85), or from the control condition ($p = .07$). More important for the current purposes is the finding that the predicted interaction was significant, $F(2, 108) = 4.02, p < .03; \omega^2 = .05$. The interaction is displayed graphically in Fig. 4.

To further examine the nature of the interaction, we conducted simple main effect analyses. Participants who took the perspective of the citizens of Benin endorsed stronger conspiracy beliefs if consequence size was big ($M = 4.99, SD = 1.01$) than if consequence size was small ($M = 4.11, SD = 0.69$), $F(1, 108) = 6.55, p < .02; \omega^2 = .05$. The simple main effect of consequence size was nonsignificant among participants who took the perspective of the average Dutch citizen, $F(1, 108) = 2.06, p = .15; \omega^2 = .01$ (for the big consequence condition, $M = 4.18, SD = 1.37$; for the small consequence condition, $M = 4.66, SD = 0.98$). Furthermore, the simple main effect of consequence size was nonsignificant in the objective control condition, $F < 1$ (for the big consequence condition, $M = 3.99, SD = 1.28$; for the small consequence condition, $M = 3.76, SD = 0.88$). These results suggest that the effects of consequence size on conspiracy beliefs materialize only among participants who take the perspective of the specific group that is under threat (i.e., the citizens of Benin).

Finally, we again analyzed the effects of perspective taking within consequence size conditions. The effect of perspective taking was significant in the big consequences condition, $F(2, 108) = 4.73, p = .01; \omega^2 = .06$. An interaction contrast analysis revealed that, when consequences were big, taking the perspective of the citizens of Benin increased conspiracy beliefs compared to the other two conditions, $F(1, 108) = 9.13, p = .003; \omega^2 = .07$. The Dutch citizen and objective control condition did not differ significantly, $F < 1$. Unexpectedly, the effect of perspective-taking was also significant in the small consequences condition, $F(2, 108) = 3.45, p = .03; \omega^2 = .05$. An interaction contrast analysis revealed that, when consequences were small, taking the perspective of the average Dutch citizen increased conspiracy beliefs compared to the other two conditions, $F(1, 108) = 5.90, p = .02; \omega^2 = .04$. The Benin-citizen condition did not differ significantly from the control condition, $F < 1$.

Discussion

The results support the idea that consequence size shapes conspiracy beliefs only among people who experience empathy for the specific group that is affected by a harmful event. The results did not support the alternative assertion that the effects of perspective taking on conspiracy beliefs are due to a general activation of the mental modules that facilitate agency detection. This does not imply that agency detection is necessarily unrelated to conspiracy beliefs—conceptually, agency detection is central in many belief systems, including conspiracy beliefs

(Shermer, 2011). Rather, our findings imply that the effects of perspective taking on conspiracy beliefs are not attributable to activation of agency detection modules. It can be concluded that the effects of perspective taking on conspiracy beliefs only emerge if perceivers take the perspective of the specific group that is under threat.

The results also unexpectedly revealed relatively strong conspiracy beliefs in the small consequences condition among participants that took the perspective of the average Dutch citizen. The effect of consequence size was nonsignificant in the Dutch citizen condition, however. One speculative possibility is that participants simply assumed that the average Dutch citizen is quite suspicious about any event happening in Africa. Be that as it may, more important for the present purposes is the finding that the consequence size manipulation predicts conspiracy beliefs only in the Benin-citizen condition, which is consistent with the findings of the previous studies.

Study 5

Study 5 was designed to test the role of sense-making motivation in these findings. Specifically, our line of reasoning was based on the notion that taking the perspective of a group that is threatened by a harmful and consequential event connects the self with the group, and as a consequence, makes people personally worried about the event (e.g., Batson et al., 2007; Loewenstein & Small, 2007; Park, 2010). Such sense-making motivation is then expected to increase belief in conspiracy theories. In Study 5, we tested this process. We kept big consequences constant, and measured participants' own desire to understand the causes of the harmful event. We predicted that participants' own motivation to make sense of an event that threatens a different group would mediate the effects of perspective taking on conspiracy beliefs.

Furthermore, we sought to extend Studies 1 and 4 by means of an additional control condition. Specifically, in Studies 1 and 4 we compared a perspective-taking condition with a condition where participants were instructed to be as objective as possible. Although such an objective condition is common in perspective-taking research (e.g., Galinsky & Moskowitz, 2000), it is not a neutral condition given that stimulating objectivity actively discourages perspective-taking (Van Prooijen & Coffeng, 2013). We therefore included a truly neutral control condition, that is, without any instruction related to perspective taking.

Method

Participants and design

A total of 93 participants (28 men, 65 women; $M_{\text{age}} = 20.69$) were recruited in VU university's student cafeterias, and randomly allocated

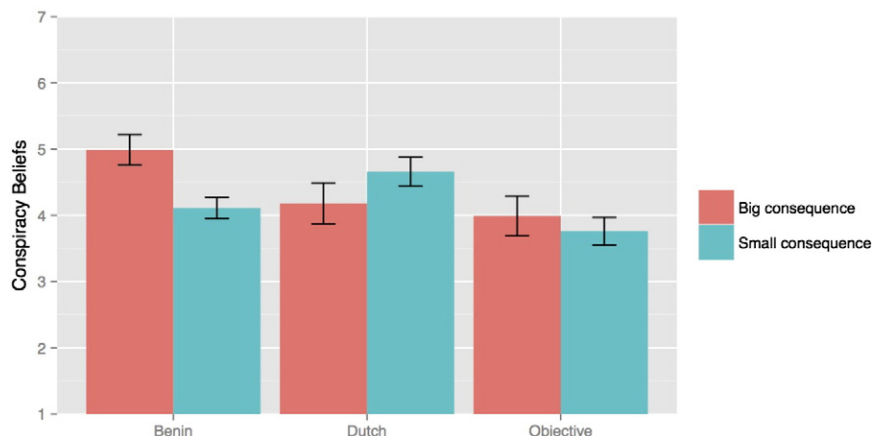


Fig. 4. Belief in conspiracy theories as a function of perspective taking and consequence size—Study 4. Ratings were on 7-point scales, and higher values indicate stronger conspiracy beliefs.

to one of the three perspective taking conditions (perspective taking vs. objective control vs. neutral control). The study was followed by a different, unrelated experiment. Together the studies lasted 15 to 20 min. Participants received either 2,50 Euros or course credits for participation.

Procedure

The experiment took place in the same laboratory as the previous studies. Participants would read an article about events that took place in the African country of Burundi (again, although Burundi is an existing country, all information in the article was bogus). As in the previous studies, in the perspective taking condition participants were asked to take the perspective of the citizens of Burundi while evaluating the article; in the objective condition, participants were asked to evaluate the article as objectively as possible. In the neutral control condition, participants did not receive such instructions.

Participants then read the article that was allegedly based on information by a Burundi press agency. The article described how an important political activist (“Oloudou Mgobi”), who is known for her criticism of the Burundi government, dies as the result of food poisoning: She caught the dangerous listeria bacteria after drinking chicken bouillon. The article further stated that an important critical voice in Burundi society is lost due to her death. Big consequences were thus held constant in this study.

We measured conspiracy beliefs with the following questions (1 = *strongly disagree*, 7 = *strongly agree*): “The press agency withholds information”, “This was an assault on the life of Mgobi”, “Mgobi was poisoned deliberately”, “The Burundi government gave the order for this food poisoning”, “Mgobi is the victim of a conspiracy”, “a secret government service planned this food poisoning in advance”, “This food poisoning could have happened to anyone” (recoded), and “Mgobi just was unfortunate to eat something that happened to contain the listeria bacteria” (recoded). These items were aggregated into a reliable conspiracy belief scale ($\alpha = .92$).

To measure participants' motivation to make sense of what happened to Mgobi, we assessed the following four items (1 = *not at all*, 7 = *very much*): “I feel emotionally involved in this incident”, “I worry about this incident”, “I have to ruminate over this incident”, and “I want this incident to be investigated thoroughly”. These four items were averaged into a reliable scale of sense-making motivation ($\alpha = .80$).

To assess how big the consequences were that participants perceived, we asked participants' agreement to the following statement: “This incident has major consequences for Burundi” (1 = *strongly disagree*, 7 = *strongly agree*). Furthermore, to check the perspective taking manipulation, we asked the following questions (1 = *certainly not*, 7 = *certainly*): “I empathize with the citizens of Burundi”, “I identify with the citizens of Burundi”, “I have a lot of similarities with the citizens of Burundi”, and “I am concerned about the future of Burundi”. These four items were averaged into a reliable empathy scale ($\alpha = .82$). The study then ended, and participants were debriefed, thanked, and given their course credit or payment.

Results

Manipulation checks

The data were analyzed through one-way ANOVAs with the three perspective-taking conditions as independent variable. The analyses revealed a significant effect of the perspective-taking manipulation on empathy, $F(2, 90) = 11.11, p < .001; \omega^2 = .18$. A subsequent Tukey's HSD-test ($p < .05$) revealed that participants reported stronger empathic feelings about the citizens of Burundi in the perspective-taking condition ($M = 4.16, SD = 1.20$) than in the objective ($M = 3.03, SD = 1.08$) or the neutral control condition ($M = 3.07, SD = 0.93$). The objective and neutral control conditions did not differ significantly on this

measure ($p = .99$). These findings indicate that the perspective-taking manipulation was successful.

Consequence size

The perspective-taking manipulation did not exert effects on the item assessing whether the incident had major consequences for Burundi, $F < 1$ (overall $M = 5.46, SD = 1.14$). A t-test (two-sided) indicated that this overall mean was significantly higher than the scale mean of 4.0, $t(92) = 12.39, p < .001$. Thus, participants in all conditions believed that the incident had major consequences for Burundi, as was intended in our experimental set-up.

Conspiracy beliefs

The analysis on conspiracy beliefs revealed a significant effect of the perspective-taking manipulation, $F(2, 90) = 9.96, p < .001; \omega^2 = .16$. Tukey's HSD-test ($p < .05$) indicated that conspiracy beliefs were stronger in the perspective-taking condition ($M = 4.61, SD = 1.08$) than in the objective ($M = 3.47, SD = 0.82$) and the neutral control condition ($M = 3.95, SD = 1.06$). Participants in the objective and neutral control conditions did not differ in their endorsement of conspiracy beliefs ($p = .15$). These findings again support the idea that perspective-taking increases conspiracy beliefs in the context of consequential events.

Sense-making motivation

The perspective-taking manipulation also exerted a significant effect on participants' own motivation to make sense of what happened to Mgobi, $F(2, 90) = 4.80, p = .01; \omega^2 = .08$. Tukey's HSD-test ($p < .05$) revealed that participants in the perspective-taking condition reported stronger sense-making motivation ($M = 4.02, SD = 1.24$) than participants in the objective ($M = 3.33, SD = 0.91$) and the neutral control conditions ($M = 3.23, SD = 1.10$). Sense-making motivation was thus strongest among participants who took the perspective of the citizens of Burundi, as predicted.

Mediational analysis

We then tested whether the effects of the perspective-taking manipulation on conspiracy beliefs were mediated by participants' sense-making motivation. To enable regression analyses we first specified two orthogonal contrasts, the first contrast comparing the perspective-taking condition versus the objective and neutral control conditions (2 – 1 – 1) and the second contrast comparing the objective versus neutral control conditions (0 1 – 1). Regression analyses revealed a significant effect of the first contrast on conspiracy beliefs ($B = .30, p < .001$) and on sense-making motivation ($B = .25, p < .01$), mirroring the previously reported ANOVA results. The second contrast was nonsignificant for both variables (for conspiracy beliefs, $B = -.24, p = .06$; for sense-making motivation, $B = .05, p = .70$).

We then included sense-making motivation as independent variable in the analysis of conspiracy beliefs. Sense-making motivation had a significant effect ($B = .34, p < .001$), and the effect of the first contrast was reduced, although still significant ($B = .21, p < .01$). A subsequent bootstrapping analysis (5000 samples) revealed a significant indirect effect for the first contrast, indicated by the finding that the 95% confidence interval does not include zero, $B = .08, CI_{95\%} [.02; .19]$. These results reveal that the effect of perspective taking on conspiracy beliefs (as compared to the objective and neutral control conditions) is partially mediated by participants' own motivation to make sense of the event.

General discussion

The five studies reported in this contribution reveal a consistent pattern, which is that perspective taking moderates the phenomenon that events with big consequences lead to stronger conspiracy beliefs than events with small consequences (McCauley & Jacques, 1979; cf.

LeBoeuf & Norton, 2012; Leman & Ciniarella, 2007). Empirical findings supported this conclusion in the context of both fictitious (Studies 1, 2, 4, and 5) and real events (Study 3). Furthermore, our studies showed a similar pattern for explicit instructions to take the perspective of the victimized group (Studies 1, 4, and 5) as compared to a validated test to assess individual differences in people's perspective-taking ability (Studies 2 and 3). Study 5 revealed empirical evidence for the mediating role of sense-making motivation, as argued in the introduction. Finally, we replicated this finding with various conceptualizations of consequence size and conspiracy beliefs. Taken together, the studies presented here suggest that perspective taking increases conspiracy beliefs following consequential events.

The more specific contributions of the present paper are twofold. First, although conspiracy beliefs essentially is an intergroup phenomenon that is characterized by a powerful outgroup that is perceived to threaten one's ingroup (Kramer & Messick, 1998; Van Prooijen & Van Lange, 2014), people frequently believe in conspiracy theories about events that happen elsewhere in the world, and do not directly impact their own group (Swami et al., 2010). The findings reported herein reconcile these insights by pointing at the role of perspective taking in conspiracy beliefs. Specifically, the findings are consistent with a model stipulating that taking the perspective of the group that was impacted by a highly consequential and harmful event elicits the sense-making processes that are associated with conspiracy beliefs. Second, the findings presented here also hold implications for theorizing on perspective taking. Most empirical studies investigated the effects of perspective taking on the quality of interpersonal or intergroup relations (e.g., Batson et al., 2007; Galinsky & Moskowitz, 2000; Todd & Burgmer, 2013). The present studies add to this body of literature by revealing a somewhat unforeseen consequence of perspective taking, namely an increase in conspiracy beliefs following harmful and consequential events that compromise the well-being of other groups. Both the emotional and cognitive components of perspective-taking seem to contribute to this finding, as we found converging effects of the cognitive skill of perspective-taking ability (Studies 2 and 3) with relatively emotional consequences of perspective-taking instructions (Study 5).

There is no "objective" answer to the question whether an actual conspiracy is likely in the bogus newspaper articles of Studies 1, 2, 4, and 5. Nevertheless, one might reason that our consequence size manipulation could structurally vary the actual likelihood of a conspiracy (cf. McCauley & Jacques, 1979). It is relatively easy to exclude this possibility as an alternative explanation of the findings in the studies presented here. After all, the objective mathematical probability of a conspiracy following a highly (or a lowly) consequential event is equal in the control and perspective-taking conditions, and hence cannot explain the moderating role of perspective taking. What is possible, however, is that perspective taking leads people to be more perceptive of suspect features of a situation (e.g., an important opposition leader dies in a car crash right before the elections). This is consistent with our line of reasoning, stipulating that perspective-takers are more vigilant following a consequential and harmful event, leading them to carefully process information that increases their understanding of the root causes of the event. Our argument does not imply that perspective-takers necessarily are more biased or paranoid; rather, they are more likely to perceive conspiracies when a group they are concerned about is under threat, independent from the question whether this entails unjustified paranoia or correct conspiracy detection.

The present studies did not focus on consequential events that are targeted at participants themselves, or at their own ingroup. One might speculate that the effects of perspective taking are substantially decreased, and possibly even reversed, in such situations. When one's own well-being—or the well-being of others that are part of a perceiver's identity, such as close kin and friends—is at stake as a result

of a consequential and harmful societal event, it is likely that people do not need perspective-taking to feel threatened and engage in sense-making activities. Indeed, research suggests that more personally-oriented forms of paranoia (e.g., suspicions that others are talking about a perceiver behind one's back) are associated with perspective-taking deficits in both clinical and subclinical samples (Bentall, Corcoran, Howard, Blackwood, & Kinderman, 2001). A common explanation for this latter finding is that personal paranoia originates from perceptions of a hostile social environment in which the self (or one's direct ingroup; cf. Crocker et al., 1999) is disconnected from others. These considerations illuminate avenues for further study, and suggest that the present conclusions about perspective taking should be restricted to conspiracy beliefs regarding events that are consequential for different groups.

When comparing the results across the studies, one might observe a discrepancy in the results of Study 3 (about the 9-11 strikes) as compared with Studies 1, 2, and 4: Among participants with high perspective-taking ability there was a trend not only for perceptions of big consequences to increase conspiracy beliefs, but also, for perceptions of (relatively) small consequences to decrease conspiracy beliefs. In all likelihood, this discrepancy is due to the realistic context of Study 3. There are many well-known conspiracy beliefs about the 9-11 strikes that admittedly are rather far-fetched (e.g., allegations that the twin towers collapsed because of explosives instead of the impact of the planes). Such grandiose explanations may come across as implausible particularly among people who have high perspective-taking abilities, and who additionally believe that these attacks were less impactful than commonly assumed. Moreover, the 9-11 terrorist strikes released strong emotional reactions among the public, and as a consequence, produced polarized opinions about the causes of this event. We suspect that these polarized opinions emerged particularly among people with strong cognitive empathy, enabling them to understand the emotions of the victims of these strikes.

These considerations suggest the broader point that perspective-taking is likely to elicit sense-making processes aimed at understanding the root causes of impactful events, but these processes may increase conspiracy beliefs only under certain circumstances. As a case in point, the 9-11 strikes not only unleashed a plethora of conspiracy beliefs implicating the Bush government as part of an evil conspiracy; the 9-11 strikes also substantially increased the popularity of the Bush government in the months after the attacks. Such increased support for leaders is consistent with literature on compensatory control, stipulating that people rely more on external control systems when their personal sense of control is compromised (Kay, Gaucher, Napier, Callan, & Laurin, 2008). A recent study partially resolved this paradox by revealing that subjective uncertainty increases conspiracy beliefs when people believe leaders to be immoral, but decreases conspiracy beliefs when people believe leaders to be moral (Van Prooijen & Jostmann, 2013). Extrapolating these arguments to the present purposes, it is well possible that perspective taking has the potential to not only increase, but (in other situations) also decrease belief in conspiracy theories. Future research may therefore fruitfully delineate the conditions under which perspective taking increases or decreases belief in conspiracy theories.

To conclude, the present contribution sought to provide an explanation for the common observation that people frequently believe in conspiracy theories following impactful societal events, even when the event took place elsewhere in the world. The findings presented here reveal evidence that perspective taking is a key concept to understand belief in conspiracy theories following such events. Inducing empathy for a different group not only influences one's relations with that group, but it also has the potential to makes one suspicious of the threats and challenges that that group faces. Paradoxically, seeing the world through another person's eyes may hence increase collective paranoia in the form of conspiracy beliefs.

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